

INDEX
RUBBER CHEMISTRY AND TECHNOLOGY
VOLUME 76, 2003
AUTHOR INDEX*

- Ade, H., see Winesett, D.A.: (4) 803
Al-Sheneper, A.A., see Hamed, G.R.: (2) 436
Anandhan, S.; De, P.P.; De, S.K.; Bhowmick, Anil K.; Sandyopadhyay, S.: Novel thermoplastic elastomers based on acrylonitrile—butadiene—styrene terpolymer (ABS) from waste computer equipment and nitrile rubber (5) 1145
Ansarifar, A.; Nijhawan, R.; Nanapoolsin, T.; Song, M.: Reinforcing effect of silica and silane fillers on the properties of some natural rubber vulcanizates (5) 1290
Audouin, L., see Rincon-Rubio, L.M.: (2) 460
Azaar, K.; Rosca, I.D.; Vergnaud, J.M.: Anisotropic swelling of EPDM rubber discs by absorption of toluene (4) 1031
Azzam, Rasha A., see Madkour, Tarek M.: (2) 334

Bandyopadhyay, S., see Ray, Sudip: (5) 1091
Bandyopadhyay, S., see Anandhan, S.: (5) 1145
Bandyopadhyay, S., see Ghosh, Arun: (1) 220
Bender, Harald, see Bhattacharjee, Susmita (5) 1057
Bhattacharjee, Susmita; Bender, Harald; Padliya, Dilip: Tailoring polymer molecular structure in the EPDM slurry process (5) 1057
Bhattacharrya, A. K., see Ghosh, Arun: (1) 220
Bhowmick, A. H., see Jacob, Ceni: (1) 36
Bhowmick, A. K., see Ghosh, Arun: (1) 220
Bhowmick, Anil K., see Shanmugharaj, A. M.: (2) 299
Bhowmick, Anil K., see Sadhu, Susmita: (4) 860
Bhowmick, Anil S., see Ray, Sudip: (5) 1091
Bhowmick, Anil S., see Anandhan, S.: (5) 1145
Bokobza, L., see Lapra, A. (1) 60
Bomal, Yves, see Ladouce-Stelandre, Laurence: (1) 145
Boyce, M.C., see Qi, H.J.: (2) 419

Campion, Robert P.: Durability review of elastomers for severe fluid duties (review) (3) 719
Caruthers, James M., see Ghosh, Prasenjeet: (3) 592
Case, Scott W., see South, Joseph T.: (4) 785
Castellano, M., see Falqui, L.: (4) 899
Clement, F., see Lapra, A. (1) 60
Clythong, N., see Woothikanokkhan, J.: (5) 1116
Colin, X., see Rincon-Rubio, L.M.: (2) 460
Costa, G., see Falqui, L.: (4) 899
Couchman, S. M., see Damen, R. (1) 82

Damen, R.; Nieuwenhuisen, P.J.; Haasnoot, J.G.; Couchman, S.M.; Jeffery, J.; McCleverty, J.A.; Reedijk, J.: Homogeneous zinc (II) catalysts in accelerated vulcanization: V. The prevailing mechanism of crosslink formation in mercaptobenzothiazole systems (1) 82
Datta, R. N., see Debnath, S. C.: (5) 1311
Datta, R. N., see Ignatz-Hoover, Frederick: (3) 747
Datta, R.N.; Talma, A.G.; Datta, S.; Nieuwenhuis, P.G.J.; Nijenhuis, W.; Maslow, W.: On the chemistry of tetrabenzyl thiuram disulfide and tetramethyl thiuram disulfide with bis(triethoxysilylpropyl)tetrasulfide in silica compounds (4) 876
Datta, S., see Datta, R.N.: (4) 876
De Hoog, Arie J., see Ignatz-Hoover, Frederick: (3) 747
de la Chapelle, Christophe, see Leblanc, Jean L.: (2) 287
de la Chapelle, Christophe, see Leblanc, Jean L.: (4) 979
De, P. P., see Jacob, Ceni: (1) 36
De, P.P., see Anandhan, S.: (5) 1145
De, S. K., see Anandhan, S.: (5) 1145

- De, S. K., see Jacob, Ceni: (1) 36
- De, S. K., see Ghosh, Arun: (1) 220
- Debnath, S. C.; Datta, R. N.; Noordermeer, J.W.M.: Understanding the chemistry of the rubber/silane reaction for silica reinforcement, using model olefins (5) 1311
- Dias, A.J., see Winesett, D.A.: (4) 803
- Dikland, H.G.; Van Duin, M.: Miscibility of EPM—EPDM blends (2) 495
- Dikland, Herman G., see van Duin, Martin: (1) 132
- Doi, Mitch, see Yamauchi, Michael T.: (4) 1045
- Duvdevani, Ilan, see Tsou, Andy H.: (2) 318
- Elul, M. D.: Novel dynamically vulcanized elastomer—polypropylene blends with improved elasticity (1) 202
- Falqui, L.; Castellano, M.; Costa, G.; Tuturro, A.; Valenti, B.: A morphometric investigation by TEM/AIA on elastomer-based compounds filled with an untreated precipitated silica (4) 899
- Fatemi, A., see Mars, W. V.: (5) 1241
- Ferradino, Anthony G.: Antioxidant selection for peroxide cure elastomer applications (review) (3) 694
- Flandin, Lionel, see Ladouce-Stelandre, Laurence: (1) 145
- Fleischman, Thomas S., see Gurvich, Mark R.: (4) 912
- Fukahori, Yoshihide.: The mechanics and mechanism of the carbon black reinforcement of elastomers (2) 548
- Gent, A. N.; Razzaghi-Kashani, M.; Hamed, G. R.: Why do cracks turn sideways? (1) 122
- Gent, A. N., see Leicht, D. C.: (1) 160
- Gent, A. N.: Graham Lake, Charles Goodyear Medalist—2003, biography (3) 2
- Gent, A.N.; Hartwell, J.A.; Lee, Ginger: Effect of carbon black on crosslinking (2) 517
- Gent, A.N.; Thompson, T.T.; Ramsier, R.D.: A "Wobble-plate" dynamic test device (4) 779
- Gent, A.N.; Yeoh, O.H.: Crack growth in twisted rubber disks. Part 3. Effects of crack depth and location (5) 1276
- Gerrard, David P.; Padovan, Joe: The friction and wear of rubber. Part 2: Micro-mechanical description of intrinsic wear (1) 101
- Ghosh, Arun; Rajeev, R. S.; Bhattacharya, A. K.; Bhowmick, A. K.; De, S. K.; Wolpensinger, B.; Bandyopadhyay, S.: Atomic Force Microscopic studies on microheterogeneity of blends of silicone rubber and tetrafluoroethylene/propylene/vinylidene fluoride terpolymer (1) 220
- Ghosh, Prasenjeet; Katara, Santhoh, Patkar, Priyan; Caruthers, James M.; Venkatasubramanian, Venkat; Walker, Kenneth A.: Sulfur vulcanization of natural rubber for benzothiazole accelerated formulations: From reaction mechanisms to a rational kinetic model (review) (3) 592
- Goharpey, F.; Katbab, A. A.; Nazockdast, H.: Formation of rubber particle agglomerates during morphology development in dynamically crosslinked EPDM/PP thermoplastic elastomers. Part I: Effects of processing and polymer structural parameters (1) 239
- Gomochak, Deanna L., see Quirk, Roderic P.: (4) 812
- Gover, M.J.C., see Horton, J.M. (5) 1194
- Gurvich, Mark; Fleischman, Thomas S.: A simple approach to characterize finite compressibility of elastomers (4) 912
- Haasnoot, J. G., see Damen, R. (1) 82
- Hamed, G. R., see Gent, A. N.: (1) 122
- Hamed, G.R.; Al-Sheneper, A.A.: Effect of carbon black concentration on cut growth in NR vulcanizates (2) 436
- Harrell, E.R., see Nakajima, N.: (5) 1074
- Hartwell, J.A., see Gent, A.N.: (2) 517
- Hassan, S.E., see Mott, P. H.: (2) 326
- Haupt, P., see Lion, A.: (2) 533
- Hergenrother, William L.; Hilton, Ashley S.: Use of χ as a function of volume fraction of rubber to determine crosslink density by swelling (4) 832
- Hirahara, H., see Mori, K.: (4) 1019
- Hogen-Esch, Theo E., see Smid, Johannes: (2) G2
- Horton, Jim; Tupholme, G.E.: Axial loading of annular bonded rubber blocks (5) 1194
- Hoven, Vipavee P.; Rattanakaran, Kesinee; Tanaka, Yasuyuki: Determination of chemical components that cause mal-odor from natural rubber (5) 1128
- Huntink, N. M., see Ignatz-Hoover, Frederick: (3) 747
- Ibarra-Gomez, Rigoberto; Marquez, Alfredo; Ramos-deValle, Luis F.; Rodriguez-Fernandez, Oliverio S.: Influence of the blend viscosity and interface energies on the preferential location of CB and conductivity of

- BR/EPDM blends (4) 969
- Ignatz-Hoover, Frederick; To, Byron H.; Datta, R. N.; de Hoog, Arie J.; Huntink, N. M.; Talma, A. G.:** Chemical additives migration in rubber (review) (3) 747
- Ikeda, Y.,** see **Kojima, M.:** (4) 957
- Isayev, A. I.,** see **Yun, Jushik:** (1) 253
- Isayev, A.I.:** Continuous mixing and compounding of polymer/filler and polymer/polymer mixtures with the aid of ultrasound (4) 923
- Isono, Yoshinobu,** see **Kawazura, Tetsuji:** (5) 1164
- Jacob, Ceni; Bhowmick, A. K.; De, P. P.; De, S. K.:** Utilization of powdered EPDM scrap in EPDM compounds (1) 36
- Jeffery, J.,** see **Damen, R.:** (1) 82
- Jeon, I.H.:** Characterization of rubber micro-morphology by atomic force microscopy (AFM) (1) 1
- Johnston, Robert T.:** Monte Carlo simulation of the peroxide curing of ethylene elastomers (1) 174
- Joyce, K.,** see **Qi, H.J.:** (2) 419
- Kardelky, C.,** see **Lion, A.:** (2) 533
- Kataoka, Takahiro; Zetterlund, Per B.; Yamada, Bunchiro:** Effects of storage and service on tire performance: Oil component content and swelling character behavior (2) 507
- Kataoka, Takahiro; Zetterlund, Per B.; Yamada, Bunchiro:** Prevention of rubber degradation by use of microencapsulated antioxidants (4) 948
- Katare, Santhoh,** see **Ghosh, Prasenjeet:** (3) 592
- Katbab, A. A.,** see **Goharpey, F.:** (1) 239
- Kawahara, Seiichi,** see **Kawazura, Tetsuji:** (5) 1164
- Kawahara, Seiichi,** see **Yunyongwattanakorn, Jintana:** (5) 1228
- Kawazura, Tetsuji; Kawahara, Seiichi; Isono, Yoshinobu:** Morphology and crystallization behavior of lightly cross-linked natural rubber in blend (5) 1164
- Kerchman, Vladamir; Shaw, Cheng:** Experimental study and finite element simulation of heat build-up in rubber compounds with application to fracture (2) 386
- Kim, H.,** see **Jeon, I.H.:** (1) 1
- Kim, S. G.,** see **Jeon, I.H.:** (1) 1
- Klinklai, Warunee,** see **Yunyongwattanakorn, Jintana:** (5) 1228
- Koenig, J. L.,** see **Parker, Dallas D.:** (1) 212
- Kohjiya, S.,** see **Kojima, M.:** (4) 957
- Kojima, M.; Ogawa, K.; Mizushima, H.; Tosaka, M.; Kohjiya, S.; Ikeda, Y.:** Devulcanization of sulfur-cured isoprene rubber in supercritical carbon dioxide (4) 957
- Kuhr, Julie H.,** see **Waddell, Walter H.:** (2) 348
- Labarre, Dominique,** see **Ladouce-Stelandre, Laurence:** (1) 145
- Ladouce-Stelandre, Laurence; Bomal, Yves; Flandin, Lionel; Labarre, Dominique:** Dynamic mechanical properties of precipitated silica filled rubber: Influence of morphology and coupling agent (1) 145
- Lake, G. J.:** Fracture mechanics and its application to failure in rubber articles (review) (3) 567
- Lapra, A.; Clement, F.; Bokobza, L.; Monnerie, L.:** Stretching to nanoscale stretchfield (1) 60
- Leblanc, Jean L.; de la Chapelle, Christophe:** Updating a torsional dynamic rheometer for Fourier transform rheometry on rubber materials (2) 287
- Leblanc, Jean L.; de la Chapelle, Christophe:** Characterizing gum elastomers by Fourier transform rheometry (4) 979
- Lee, Ginger,** see **Gent, A.N.:** (2) 517
- Leicht, D. C.; Yeoh, O. H.; Gent, A. N.; Padovan, J.; Mullen, R. I.:** Adhesion failure in bonded rubber cylinders Part 1: Internal penny-shaped cracks (1) 160
- Leicht, Douglas C.; Rimnac, C.; Mullen, R.:** Adhesion failure in bonded rubber cylinders Part 2: Fatigue life prediction of external ring-shaped cracks using tearing energy approach (2) 365
- Lim-Ochakun, Ratree,** see **Magaraphan, Rathanawan:** (2) 406
- Lion, A.; Kardelky, C.; Haupt, P.:** On the frequency and amplitude dependence of the Payne effect: Theory and experiments (2) 533
- Lu, Zhen-Hua,** see **Wang, Li-Rong:** (1) 271
- Madkour, Tarek M.; Azzam, Rasha A.:** Influence of crosslink characteristics induced by aromatic-based antioxidants on the swelling and stress-strain behavior of natural rubber vulcanizates (2) 334
- Magaraphan, Rathanawan; Thaijaroen, Woothichai; Lim-Ochakun, Ratree:** Structure and properties of natural rubber and modified montmorillonite nanocomposites (2) 406

- Magonov, Sergei, see Yerina, Natalya: (4) 846
- Marquez, Alfredo, see Ibarra-Gomez, Rigberto: (4) 969
- Mars, W. V.; Fatemi, A.: A phenomenological model for the effect of R ratio on fatigue of strain crystallizing rubbers (5) 1241
- Maslow, W., see Datta, R.N.: (4) 876
- McCleverty, J. A., see Damen, R. (1) 82
- McElrath, Kenneth O., see Tsou, Andy H.: (2) 318
- Mizushima, H., see Kojima, M.: (4) 957
- Monnerie, L., see Lapra, A. (1) 60
- Mori, K.; Shii, X.; Hirahara, H.; Oishi, Y.: Adhesion of rubber to magnesium alloys in the presence of nickel branched alkylcarboxylates (4) 1019
- Mori, Makio: Study of vulcanization and degradation chemistry in natural rubber by solid-state C^{13} NMR and physical property measurements (5) 1259
- Mori, Makio, see Parker, Dallas D.: (1) 212
- Mott, P. H.; Roland, C. M.; Hassan, S.E.: Strains in an inflated rubber sheet (2) 326
- Mullen, R., see Leicht, Douglas C.: (2) 365
- Mullen, R. L., see Leicht, D. C.: (1) 160
- Nazockdast, H., see Goharpey, F.: (1) 239
- Nakajima, N.; Harrell, E.R.: Reinforcement of PVC plastisol—VIII. Mechanism of non-linear viscoelastic behavior (5) 1074
- Nakayama, Takenori, see Yamauchi, Michael T.: (4) 1045
- Nanapolsoin, T., see Ansarif, A.: (5) 1290
- Naskar, K.; Noordermeer, J.W.M.: Dynamically vulcanized PP/EPDM blends: Effects of different types of peroxides on the properties (4) 1001
- Nieuwenhuis, P.G.J., see Datta, R.N.: (4) 876
- Nieuwenhuisen, F. J., see Damen, R. (1) 82
- Nijenhuis, W., see Datta, R.N.: (4) 876
- Nijhawan, R., see Ansarif, A.: (5) 1290
- Noordermeer, J. W. M., see Debnath, S. C.: (5) 1311
- Noordermeer, J. W. M., see Naskar, K.: (4) 1001
- Noordermeer, J.W.M., see ten Brinke (1) 12
- Ogawa, K., see Kojima, M.: (4) 957
- Oishi, Y., see Mori, K.: (4) 1019
- Okumura, Kazuo, see Yamauchi, Michael T.: (4) 1045
- Padliya, Dilip, see Bhattacharjee, Susmita (5) 1057
- Padovan, J., see Leicht, D. C.: (1) 160
- Padovan, Joe, see Gerrard, David P.: (1) 101
- Paluch, M., see Pawlus, S.: (5) 1106
- Parker, Dallas D.; Koenig, J. L.; Mori, Makio: Correlation of ^{13}C NMR analysis and physical testing results of natural rubber (1) 212
- Patkar, Priyan, see Ghosh, Prasenjeet: (3) 592
- Pawlus, S.; Roland, C. M.; Rzoska, S. J.; Ziolo, J.; Paluch, M.: Effect of temperature and pressure on segmental relaxation in polymethylphenylsiloxane (5) 1106
- Poulter, Robert R., see Waddell, Walter H.: (2) 348
- Qi, H.J.; Joyce, K.; Boyce, M.B.: Durometer hardness and the stress-strain behavior of elastomeric materials (2) 419
- Quirk, Roderic P.; Gomochak, Deanna L.: Recent advances in anionic synthesis of chain-end functionalized elastomers using epoxides and related compounds (4) 812
- Rajeev, R.S., see Ghosh, Arun: (1) 220
- Ramos-de Valle, Luis F., see Ibarra-Gomez, Rigberto: (4) 969
- Ramsier, R.D., see Gent, A.N.: (4) 779
- Rattanakarn, Kesinee, see Hoven, Vipavee P.: (5) 1128
- Ray, Sudip; Bhowmick, Anil K.; Bandyopadhyay, S.: Atomic force microscopy studies on morphology and distribution of surface modified silica and clay fillers in an ethylene—octene copolymer rubber (5) 1091
- Razzaghi-Kashani, M., see Gent, A. N.: (1) 122

- Reedijk, J., see Damen, R. (1) 82
- Reifsnider, Kenneth L., see South, Joseph T.: (4) 785
- Reuvekamp, L. A. E. M., see ten Brinke, J. W.: (1) 12
- Rimnac, C., see Leicht, Douglas C.: (2) 365
- Rincon-Rubio, L. M.; Collin, X.; Adouin, L.; Verdu, J.: A theoretical model for the diffusion-limited thermal oxidation of elastomers at medium temperatures (2) 460
- Rodriguez-Fernandez, Oliverio S., see Ibarra-Gomez, Rigberto: (4) 969
- Roland, C. M., see Pawlus, S.: (5) 1106
- Roland, C. M., see Mott, P. H.: (2) 326
- Roland, C.M., see Santangelo, P.G.: (4) 892
- Rosca, I.D., see Azaar, K.: (4) 1031
- Rzoska, S., see Pawlus, S.: (5) 1106
- Sadhu, Susmita; Bhowmick, Anil K.: Effect of chain length of amine and nature and loading of clay on styrene-butadiene rubber—clay nanocomposites (4) 860
- Sakdapipanich, J. T., see Tarachiwin, L.: (5) 1177
- Sakdapipanich, J. T., see Tarachiwin, L.: (5) 1185
- Sakdapipanich, Jitladda, see Yunyongwattanakorn, Jintana: (5) 1228
- Sandypadhyay, S., see Anandhan, S. (5) 1145
- Santangelo, P.G.; Roland, C.M.: Role of strain crystallization in the fatigue resistance of double network elastomers (4) 892
- Shanmugharaj, A.M.; Bhowmick, Anil K.: Influence of novel electron beam modified surface treated dual phase filler on rheometric and mechanical properties of styrene butadiene rubber vulcanizates (2) 299
- Shaw, Cheng, see Kerchman, Vladimir: (2) 386
- Shii, X., see Mori, K.: (4) 1019
- Shimizu, Tochi, see Yamauchi, Michael T.: (4) 1045
- Smid, Johannes; Hogen-Esch, Theo E.: International Rubber Science Hall of Fame Inductee, Michael Swarc (2) G2
- Smid, Johannes; Hogen-Esch, Theo H.: International Rubber Science Hall of Fame Inductee, Michael Swarc, biog. (2) 17
- Smith, A.P., see Winesett, D.A.: (4) 803
- Song, G., see Zerda, T.W.: (4) 769
- Song, M., see Ansarifard, A.: (5) 1290
- South, Joseph T.; Case, Scott W.; Reifsnider, Kenneth L.: Effects of thermal aging on themechanical properties of natural rubber (4) 785
- Stevens, P., see Winesett, D.A.: (4) 803
- Talma, A. G., see Ignatz-Hoover, Frederick: (3) 747
- Talma, A.G., see Datta, R.N.: (4) 876
- Tanaka, Y., see Tarachiwin, L.: (5) 1177
- Tanaka, Y., see Tarachiwin, L.: (5) 1185
- Tanaka, Yasuyuki, see Hoven, Vipavee P.: (5) 1128
- Tanaka, Yasuyuki, see Yunyongwattanakorn, Jintana: (5) 1228
- Tarachiwin, L.; Sakdapipanich, J. T.; Tanaka, Y.: Gel formation in natural rubber latex. 1. Effect of $(\text{NH}_4)_2\text{HPO}_4$ and TMTD/ZnO additives (5) 1185
- Tarachiwin, L.; Sakdapipanich, J. T.; Tanaka, Y.: Gel formation in natural rubber latex. 2. Effect of magnesium ion (5) 1185
- ten Brinke, J. W.; van Swaaij, P. J.; Reuvekamp, L. A. E. M.; Noordermeer, J.W.M.: The influence of silane sulfur and carbon rank on processing of a silica reinforced tire tread compound (1) 12
- Thaijaroen, Woothichai, see Magaraphan, Rathanawan: (2) 406
- Thompson, T.T., see Gent, A.N.: (4) 779
- To, Byron H., see Ignatz-Hoover, Frederick: (3) 747
- Tosaka, M., see Kojima, M.: (4) 957
- Tsou, Andy H.; Duvdevani, Ilan; McElrath, Kenneth O.: Co-Continuity and ozone resistance of BIMS compounds (2) 318
- Tupholme, G.E., see Horton, J.M.: (5) 1194
- Turturro, A., see Falqui, L.: (4) 899
- Urquhart, S.G., see Winesett, D.A.: (4) 803

- Valenti, B., see Falqui, L.: (4) 899
- Van Duin, M., see Dikland, H.G.: (2) 495
- van Duin, Martin; Dikland, Herman G.: Effect of third monomer type and content on peroxide crosslinking efficiency of EPDM (1) 132
- van Swaaij, P. J., see ten Brinke, J. W.: (1) 12
- Venkatasubramanian, Venkat, see Ghosh, Prasenjeet: (3) 592
- Verdu, J., see Rincon-Rubio, L.M.: (2) 460
- Vergnaud, J.M., see Azaar, K.: (4) 1031
- Waddell, W.H., see Zerda, T.W.: (4) 769
- Waddell, Walter H.; Kuhr, Julie H.; Poulter, Robert R.: Evaluation of isobutylene-based elastomers in a model winter tire tread (2) 348
- Walker, Kenneth A., see Ghosh, Prasenjeet: (3) 592
- Wang, Li-Rong; Lu, Zhen-Hua: Modeling method of constitutive law of rubber hyperelasticity based on finite element simulations (1) 271
- Winesett, D.A.; Ade, H.; Smith, A.P.; Urquhart, S.G.; Dias, A.J.; Stevens, P.: Application of scanning transmission X-ray microscopy to the rubber industry (4) 803
- Wolpensinger, B., see Ghosh, Arun: (1) 220
- Woothikanokkhan, J.; Clythong, N.: Effects of accelerator type and curing temperature on crosslink distributions and tensile properties of natural-acrylic rubber blends (5) 1116
- Yamada, Bunchiro, see Kataoka, Takahiro: (2) 507
- Yamada, Bunichiro, see Kataoka, Takahiro: (4) 948
- Yamauchi, Michael T.; Shimizu, Toshi; Doi, Mitch; Yasunaga, David; Okumura, Kazuo; Nakayama, Takenori: Examination of rubber-brass inter-reacted layer of steel cord by cross sectional TEM observation (4) 1045
- Yasunaga, David, see Yamauchi, Michael T.: (4) 1045
- Yeoh, O.H., see Gent, A.N. (5) 1276
- Yeoh, O. H., see Leicht, D. C.: (1) 160
- Yeoh, O. H.: Some benchmark problems for FEA from torsional behavior of rubber (5) 1212
- Yeoh, O.H.: Fracture mechanics of bond failure in the "pure shear" test piece (2) 483
- Yerina, Natalya; Magonov, Sergei: Atomic force microscopy in analysis of rubber materials (4) 846
- Yun, Jushik; Isayev, A. I.: Superior mechanical properties of ultrasonically recycled EPDM rubber (1) 253
- Yunyongwattanakorn, Jintana; Tanaka, Yasuyuki; Kawahara, Seiichi; Klinklai, Warunee; Sakdapipanch, Jitladda: Effect of non-rubber components on storage hardening and gel formation of natural rubber during accelerated storage under various conditions (5) 1228
- Zerda, T.W.; Song, G.; Waddell, W.H.: Distribution of elastomers and silica in polymer blends characterized by Raman microimaging technique (4) 769
- Zetterlund, Per B., see Kataoka, Takahiro: (2) 507
- Zetterlund, Per B., see Kataoka, Takahiro: (4) 948
- Ziolo, J., see Pawlus, S.: (5) 1106

SUBJECT INDEX*

- ABS (acrylonitrile—butadiene—styrene terpolymer), from waste computer equipment and NBR (5) 1145
- Accelerator, effects of type (MBT, ZDEC, DPG) on crosslink distribution and tensile properties of NR/acrylic blends (5) 1116
- Adhesion failure, in bonded rubber cylinders, fatigue life prediction using tearing energy approach (2) 365
- Adhesion failure, in bonded rubber cylinders, penny-shaped cracks (1) 160
- Adhesion, of rubber to magnesium alloys, in presence of Ni branched alkyl carboxylates (4) 1019
- AFM (atomic force microscopy), for characterizing rubber micro-morphology (1) 1
- AFM, for determining stretch of silica-filled elastomers (1) 60
- Antioxidant selection, for peroxide cure elastomer applications (review) (3) 694
- Antioxidants, aromatic-based, influence on crosslink characteristics induced by, on swelling and strain behavior of NR (2) 334
- Antioxidants, microencapsulated, for preventing evaporation and migration during processing (4) 948
- ATM (atomic force microscopy), to study morphology and distribution of modified silica and clay fillers in ethylene—octene rubber (5) 1091
- ATM (atomic force microscopy), as a tool for compositional mapping of elastomers (4) 846
- Atomic force microscopy, to study blends of silicone rubber and tetrafluoroethylene/propylene/vinylidene fluoride terpolymer (1) 220
- Axial deflection and stress distribution, of annular cross sections of axially loaded rubber blocks (5) 1194
- Benchmark problems, in torsional behavior of rubber, analyzed by two FEA programs (5) 1212
- Benzothiazole accelerated formulations, for sulfur vulcanization of NR, kinetic model for (review) (3) 592
- BIMS (brominated poly[isobutylene-co-p-methylstyrene]), co-continuity and ozone resistance (2) 318
- BIMS rubber, evaluated in winter tire treads (2) 348
- Blend, of lightly cross-linked NR in SBR, morphology and crystallization behavior (5) 1164
- Blends, of elastomers, studying by STXM (4) 803
- Blends, of EPM—EPDM, miscibility of (2) 495
- Blends, of NR and acrylic rubber, effects of accelerator type and curing temperature on crosslink distributions and tensile (5) 1116
- Blends, of PP/EPDM, effect of different peroxides on dynamic properties in dynamic vulcanization (4) 1001
- Blends, of vulcanized elastomers with long-chain branched PP (1) 202
- Bond failure, in pure shear test piece, fracture mechanics of (2) 483
- Bonded rubber blocks, axial loading of annular cross sections (5) 1194
- Bonded rubber cylinders, adhesion failure, internal penny-shaped cracks (1) 160
- BR, BIMS, NR and/or SBR; characterizing distribution of elastomers and silica by Raman microimaging technique (4) 769
- BR/EPDM blends, conductivity affected by viscosity difference between rubber components (4) 969
- ¹³C NMR analysis, of black-filled NR, compared with physical test results (1) 212
- ¹³C NMR, solid-state, study of vulcanization and degradation chemistry of NR (5) 1259
- Carbon black distribution, as a factor in conductivity of BR/EPDM blends (4) 969
- Carbon black, effect of concentration on cut growth in NR vulcanizates (2) 436
- Carbon black, effect on crosslinking and swelling of vulcanizates (2) 517
- Carbon black, in rubber blends, behavior analyzed through AFM (1) 1
- Carbon black, model for reinforcement of rubber (2) 548
- Carbon dioxide, supercritical, with devulcanizing agents for IR (4) 957
- Chain-end functionalized elastomers, synthesis using epoxides (4) 812
- Charles Goodyear Medal to Dr. Graham J. Lake (2) G5; biog. (3) G2
- Charles Goodyear Medal Award, 2003, address by Graham Lake (3) 567
- Chemical additives, migration in rubber (review) (3) 747
- Clay nanocomposites, from treatment with organic amines, to improve rubber properties (4) 860
- Co-continuity, effect in BIMS compounding (2) 318
- Compatibilization, of immiscible polymer blends, during extrusion by ultrasound (4) 923
- Complex morphology, in elastomer blends, analysis through STXM (4) 803
- Compressibility, of elastomers, accurate, dimensionless characterization (4) 912
- Conductivity, of BR/EPDM blends, affected by viscosity difference between rubber components (4) 969
- Crack growth, in twisted rubber disks, effects of crack depth and location (5) 1276

- Cracks, strain energy release rate, G , for rubber sheet, far-field simple extension to study (1) 122
- Crosslink density of rubber by swelling, as a function of volume fraction (4) 832
- Crosslinking mechanism, in zinc catalyzed vulcanization using mercaptobenzothiazole (1) 82
- Crosslinking, in filled rubber, estimating by measuring equilibrium and swelling of elastic modules (2) 517
- Crystallization rate, of NR/SBR blend, dependent on homogeneous nucleation in NR droplets (5) 1164
- Curing temperature, effects on blends of NR and acrylic rubber (5) 1116
- Cut growth analysis, numerical models (2) 386
- Cut growth, in NR vulcanizates, effect of carbon black concentration (2) 436
- De, Sadham K., George Stafford Whitby Award, 2003 (2) G6
- Degradation chemistry, of NR, studied by solid state ^{13}C NMR (5) 1259
- Durability, of elastomers for severe fluid duties (review) (3) 719
- Durometer hardness, and stress-strain behavior of elastomeric materials (2) 419
- Dynamic tester, for rubber elasticity, using a "wobble-plate" (4) 779
- EFM (electric force microscopy), as a tool for compositional mapping of elastomers (4) 846
- Elasticity, improved in dynamically vulcanized EPDM blended with PP having long-chain branching (1) 202
- Electron beam modified surface treated dual phase filler, effect on rheometric and mechanical properties of SBR (2) 299
- EPDM morphology, changed by crosslinking and loading with fillers, studied by ATM (4) 846
- EPDM rubber discs, anisotropic swelling by absorption of toluene (4) 1031
- EPDM rubber, ultrasonically recycled, with higher tensile strength (1) 253
- EPDM, effect of third monomer type and content on peroxide crosslinking (1) 132
- EPDM, gum, analyzed by Fourier transform rheology (4) 979
- EPDM, tailoring polymer molecular structure in slurry process (5) 1057
- EPDM, use of scrap (W-EPDM) in EPDM compounds (1) 36
- EPDM, with PP having long chain branching, for greatly improved elasticity (1) 202
- EPDM/PP, dynamically crosslinked, effects of processing and polymer structure on rubber particle agglomeration (1) 239
- EPDM/silica mixtures, treated with ultrasound to break down silica aggregates (4) 923
- EPDM blends, studying miscibility of (2) 495
- Ethylene elastomers, Monte Carlo simulation of peroxide curing (1) 174
- Ethylene/octene copolymers, Monte Carlo simulation of peroxide cure (1) 174
- Ethylene—octene copolymer, filled with surface modified clay or silica, showing improved filler dispersion (5) 1091
- Fatigue crack propagation, as it relates to determining intrinsic wear of rubber (1) 101
- Fatigue life prediction, of external ring-shaped cracks in bonded rubber cylinders, using tearing energy approach (2) 365
- Fatigue resistance, of double network elastomers, role of strain crystallization (4) 892
- Fatigue, in rubber—cord laminates, applications of fracture mechanics (review) (3) 567
- Fatigue, in strain crystallizing rubbers, estimating through a model for effect of R ratio (5) 1241
- FEA programs, for benchmark problems in torsional behavior of rubber cylinders, ANSYS and FLEXPAC (5) 1212
- FEA results matched with experimental measure of radical deformation, to assess finite compressibility (4) 912
- Fernley H. Banbury Award, 2003, to Bryan Willoughby (2) G6
- Filled rubber, behavior during crack splitting (1) 122
- Filler dispersion, quantitative, morphological investigation of (4) 899
- Filler, electron beam modified surface treated dual phase, influence on rheometric and mechanical properties of SBR (2) 299
- Filler, surface treated dual phase, electron beam modified, influence on properties of SBR (2) 299
- Fillers, clay and silica, modified with surface coatings, for reducing aggregate size and improving dispersion (5) 1091
- Fillers, silica and silicate, effect on properties of NR vulcanizates (5) 1290
- Fluids, in harsh conditions for rubber parts (review) (3) 719
- Fourier transform rheology, for characterizing gum elastomers (4) 979
- Fourier transform rheometry, modifying torsional dynamic rheometer for non-linear viscoelastic region (2) 287
- Fracture mechanics, applications to failure in rubber articles (review) (3) 567
- Fracture mechanics, of bond failure in pure shear test piece (2) 483
- Fracture, its relation to heat build-up studied by finite element simulation (2) 386
- Fracture energy, in a twisted rubber disk, compared with that of an infinitely long cylinder (5) 1276
- Friction and wear, of rubber, intrinsic, geometric approach (1) 101
- Gel formation, in NR latex, effect of Mg ions (5) 1185
- Gel formation, in NR latex, effect of TMTD/ ZnO and of $(\text{NH}_4)_2\text{HPO}_4$ (5) 1177

- George Stafford Whitby Award, 2003, to Dr. Sadham K. De (2) G6
 Ground scrap EPDM, as potential substitute for calcium carbonate filler in EPDM products (1) 36
 Guayule rubber, strain crystallinity and longer fatigue life (4) 892
- Hardening, of NR latex during storage, effect of non-rubber components (5) 1228
 Hardness, of elastomers and relation to modulus (2) 419
 Headspace analysis, of NR for mal-odors (5) 1128
 Heat build-up, with application to fracture (2) 386
 Hyperelasticity, modeling method for determining by finite element simulations (1) 271
- International Rubber Science Hall of Fame Inductee, 2002, Michael Swarc (2) G2
 iPP/EPDM morphology studied by ATM and ETM (4) 846
 IR, sulfur-cured, devulcanization (4) 957
 Isobutylene-based elastomer, evaluation in model winter tire tread (2) 348
- Kinetic model, for sulfur vulcanization of NR in benzothiazole accelerated formulations (review) (3) 592
- Lake, Graham J, Charles Goodyear Medalist, 2003 (2) G5; biog (3) G2
 Linear viscoelasticity, in filler-reinforced elastomers, developing theory on frequency and amplitude dependence in Payne effect (2) 533
- Magnesium alloys, bonding to rubber using Ni branched alkyl carboxylates (4) 1019
 Magnesium ions, effect on gel formation of NR latex (5) 1185
 Mal-odors, caused by NR, analyzed by gas chromatography (5) 1128
 Mechanical properties, of NR, effect of thermal aging (4) 785
 Melvin Mooney Distinguished Technology Award, 2003, to Walter Waddell (2) G5
 Micro-morphology of rubber blends, by AFM (1) 1
 Migration, of chemical additives in rubber (review) (3) 747
 Miscibility, of blends of EPM-EPDM (2) 495
 Model olefins, used for understanding chemistry of rubber/silane reaction for silica reinforcement (5) 1311
 Model, for diffusion-limited thermal oxidation of elastomers at medium temperatures (2) 460
 Model, for theory of carbon black reinforcement of elastomers (2) 548
 Model, phenomenological, for estimating fatigue performance in strain crystallizing rubbers (5) 1241
 Modeling method, for rubber hyperelasticity, based on finite element simulation (1) 271
 Montmorillonite clay nanocomposites, modified by ammonium salts (2) 406
 Monte Carlo simulation, of peroxide curing of ethylene elastomers (1) 174
 Morphological study, of rubbers filled with precipitated silica (4) 899
 Morphology and crystallization behavior, of lightly cross-linked NR blend with SBR (5) 1164
 Morphology development, in dynamically crosslinked EPDM/PP thermoplastic elastomers, effects of processing and polymer structure (1) 239
- Nanocomposites, of SBR and clay, effect of chain length of amine and loading of clay (4) 860
 NBR, used with material from waste computers to produce ABS (5) 1145
 $(\text{NH}_4)_2\text{HPO}_4$ and TMTD/ZnO, effect on gel formation in NR latex (5) 1177
 Ni branched alkyl carboxylates, for interface bonds between magnesium alloys and rubber (4) 1019
 NR latex, effect of Mg ions on gel fraction (5) 1185
 NR latex, effect of TMTD/ZnO and of $(\text{NH}_4)_2\text{HPO}_4$ on gel formation (5) 1177
 NR, ^{13}C NMR analysis correlated with physical testing results (1) 212
 NR, analyzed for mal-odors (5) 1128
 NR, effect of non-rubber components on storage hardening and gel formation (5) 1228
 NR, effects of thermal aging on mechanical properties (4) 785
 NR, With modified montmorillonite clay, structure and properties (2) 406
- Oil component, in tires, effect on storage and service (2) 507
 Omega-hydroxy chain-end functionalized polymers. From organolithium compounds with epoxides and oxetane (4) 812
 Ozone resistance, of BIMS compounds (2) 318
- Payne effect, in silica-filled vulcanized rubber (1) 145
 Payne effect, theory and experiments on frequency and amplitude dependence in (2) 533

- Penny-shaped cracks, in bonded rubber cylinders (1) 160
- Peroxide crosslinking, of EPDM, effect of third monomer type and content (1) 132
- Peroxide cured elastomers, selection of antioxidants (review) (3) 694
- Peroxides, effect of different types on dynamically vulcanized PP/EPDM blends (4) 1001
- PMPS (polymethylphenylsiloxane), effect of temperature and pressure on segmental relaxation (5) 1106
- Polymer blends, studying distribution of elastomers and silica by Raman microimaging (4) 769
- PP, with long-chain branching, to improve elasticity of EPDM blends (1) 202
- PP/EPDM blends, dynamic vulcanization, effect of peroxides on properties (4) 1001
- 6PPD(N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine) microencapsulated in silica for use as an antioxidant in rubber compounding (4) 948
- Processing and polymer structure, effects on particle agglomeration in dynamically crosslinked EPDM/PP thermoplastic elastomers (1) 239
- Pure shear test piece, for studying fracture mechanics of bond failure (2) 483
- PVC plastisol, rheology (5) 1074
- R ratio, effect on fatigue of strain crystallizing rubbers, model for (5) 1241
- Raman microimaging, for studying distribution of elastomers and silica in polymer blends (4) 769
- Reclaiming, of IR, in supercritical carbon dioxide (4) 957
- Recycled EPDM, with superior tensile strength (1) 253
- Reinforcement, of elastomers by carbon black, model for (2) 548
- Reinforcing effects, of silica and silicates, on NR vulcanizates (5) 1290
- Relaxation times, of PMPS, studied by dielectric spectroscopy, show loss peak independent of temperature, pressure and molecular weight (5) 1106
- Rheology, of PVC plastisol (5) 1074
- Rheometer, torsional dynamic, updating for Fourier transform rheometry on rubber (2) 287
- Rubber Division, ACS, 2003 Science and Technology Awards, 2003 Spring Meeting (2) G5
- Rubber Division, ACS, Best Paper Awards, 2002 Fall meeting (2) G7
- Rubber Division, ACS, Charles Goodyear Medalist—2003, Graham Lake (3) G2
- Rubber Division, ACS, International Rubber Science Hall of Fame, 2003, Michael Swarc (2) G2
- Rubber Division, ACS, Science and Technology Awards presented at the 2003 Spring Technical Meeting (2) G5
- Rubber sheet, inflated, measuring strain distribution (2) 326
- Rubber—brass, inter-reacted layer of steel cord, examining by TEM (4) 1045
- SBR and PDMS, silica-filled, stretching checked by AFM (1) 60
- SBR, effect of electron beam modified surface treated dual phase filler on rheometric and mechanical properties (2) 299
- SBR, gum, analyzed by Fourier transform rheology (4) 979
- Scrap, from computers, used with NBR to produce ABS terpolymer (5) 1145
- Segmental relaxation, in PMPS, effect of temperature and pressure (5) 1106
- Service, of rubber parts under severe fluid conditions (review) (3) 719
- Sideways cracks, in filled rubbers, analysis of reason for (1) 122
- Silica and silicate fillers, reinforcing effects on NR vulcanizates (5) 1290
- Silica filler, untreated precipitated, studied in various vulcanized compounds (4) 899
- Silica reinforced tire tread, effect of silane, sulfur and carbon rank on processing (1) 12
- Silica reinforcement, using TESPT, understanding chemistry through model olefins (5) 1311
- Silica, precipitated, influence of morphology and coupling agent on dynamic mechanical properties of filled rubbers (1) 145
- Silicone rubber, blend with tetrafluoroethylene/propylene/vinylidene fluoride terpolymer, studied by atomic force microscopy (1) 220
- Slurry process, tailoring EPDM polymer molecular structure in (5) 1057
- Steel cord, examining reaction with rubber during vulcanization (4) 1045
- Storage, of NR, effect of non-rubber components on hardening and gel formation (5) 1228
- Strain crystallization, role in fatigue resistance of double network elastomers (4) 892
- Strain energy release rate, G, for rubber sheet, used to study behavior of cracks (1) 122
- Strains, in an inflated rubber sheet (2) 326
- Stress-strain behavior, of elastomers, in relation to durometer hardness (2) 419
- Stress-strain behavior, of NR as influenced by crosslink characteristics induced by aromatic antioxidants (2) 334
- Stretching of silica-filled elastomers, by AFM, from macro- to nanoscale (1) 60
- STXM (Scanning transmission X-ray microscopy), applications in the rubber industry (4) 803
- Sulfur vulcanization, disproportionation of crosslink precursors in MBTS and zinc system (1) 82

- Sulfur vulcanization, of NR, kinetic model for benzothiazole accelerated formulations (review) (3) 592
- Swarc, Michael, named to International Rubber Science Hall of Fame, 2002 (2) G2
- Swelling behavior, of tires, effect of storage and service on performance (2) 507
- Swelling of NR vulcanizates, as influenced by crosslink characteristics induced by aromatic antioxidants (2) 334
- Swelling, of EPDM discs, by absorption of toluene (4) 1031
- Tailoring, polymer molecular structure in EPDM slurry process (5) 1057
- TBzTD (tetrabenzyl thiuram disulfide), reaction with TESPT compared with that of TMTD (4) 876
- Tearing energy approach, to predicting fatigue life in bonded rubber cylinders (2) 365
- TEM/AIA (transmission electron microscope and automated image analysis) for morphometric study of elastomers filled with precipitated silica (4) 899
- Tensile strength, of ultrasonically recycled EPDM rubber (1) 253
- TESPT [bis[triethoxy-silyl-propyl] tetrasulfide], understanding its role in silica reinforcement using model olefins (5) 1311
- TESPT (bis[triethoxysilylpropyl]tetrasulfide), different cure efficiencies with TMTD and TBzTD (4) 876
- TESPT [bis(triethoxysilylpropyl)tetrasulphide], coupling agent for silica reinforced tire tread, effect of sulfur rank (1) 12
- Thermal aging, effects on mechanical properties of NR (4) 785
- Thermal oxidation, diffusion-limited, of elastomers at medium temperatures, model for (2) 460
- Tire performance, effect of oil component and swelling during storage (2) 507
- Tire tread compound, silica-reinforced, effect of sulfur rank and carbon rank of equivalents of TESPT (1) 12
- Tire tread, winter, evaluation of isobutylene-based elastomer in (2) 348
- Tires, steel-cord reinforced, examining rubber—brass layer by TEM (4) 1045
- Tires, tread groove cracking, application of fracture mechanics (review) (3) 567
- TMTD (tetramethyl thiuram disulfide), reaction with TESPT compared with that of TBzTD (4) 876
- Torsional behavior of rubber, analyzed by FEA programs (ANSYS and FLEXPAC) (5) 1212
- Twisted rubber disks, crack growth, effect of crack depth and location (5) 1276
- Torsional dynamic rheometer, for Fourier transform rheometry on rubber (2) 287
- Ultrasound, to aid continuous mixing and compounding of polymer/filler and polymer/polymer (4) 923
- Viscoelastic behavior, non-linear, of PVC plastisol (5) 1074
- Vulcanization and degradation chemistry, of NR, studied by solid-state ¹³C NMR (5) 1259
- Waddell, Walter, Melvin Mooney Distinguished Technology Award, 2003 (2) G5
- Wear, studied in the micro-mechanical scale of the intrinsic nodule (1) 101
- Willoughby, Bryan, Fernley H., Banbury Award, 2003 (2) G6
- Wobble-plate dynamic tester, for rubber elasticity (4) 779
- X as a function of volume fraction, for determining crosslink density by swelling (4) 832